

Powell Lenses for Machine Vision and Sensor Applications

Powell lenses are laser line generators that transfer a laser beam into a straight laser line with uniform power distribution.

The lenses are available in two diameters with a wide choice of fan angles and options for different incident laser beam diameters. Custom versions that are optimized for the used laser diode can be offered too.

Features:

- 100% Made in Germany
- CNC manufactured
- 100% testing: every lens is measured and tested before shipping

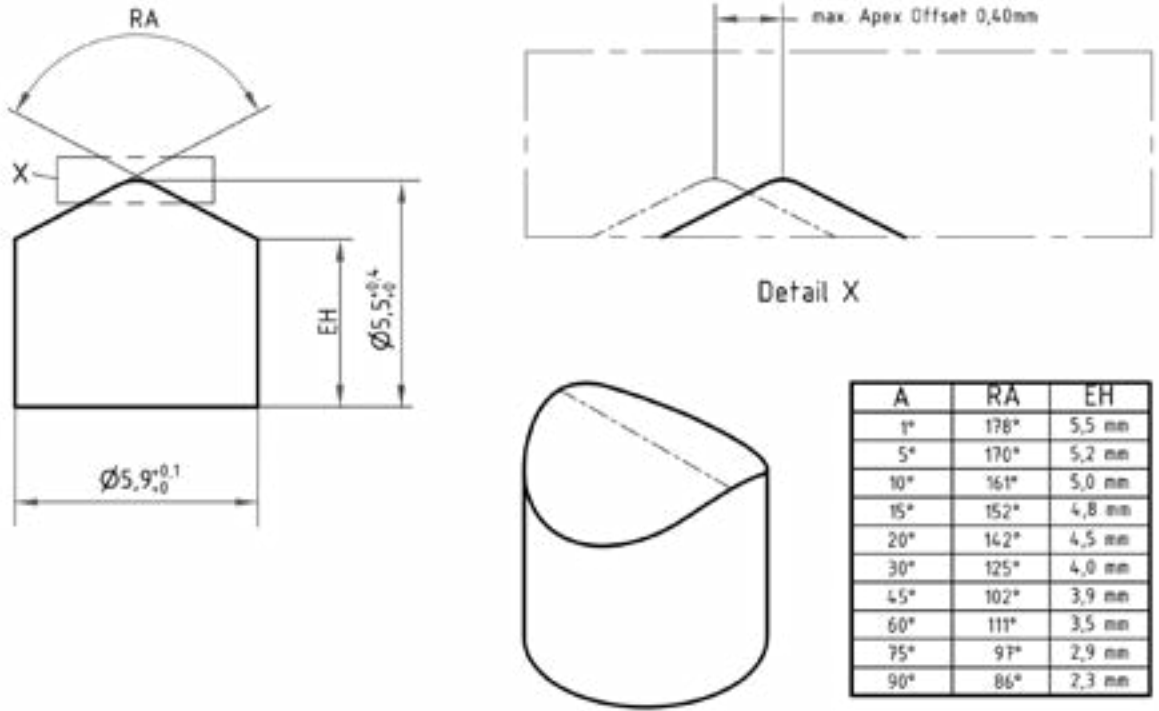


Properties

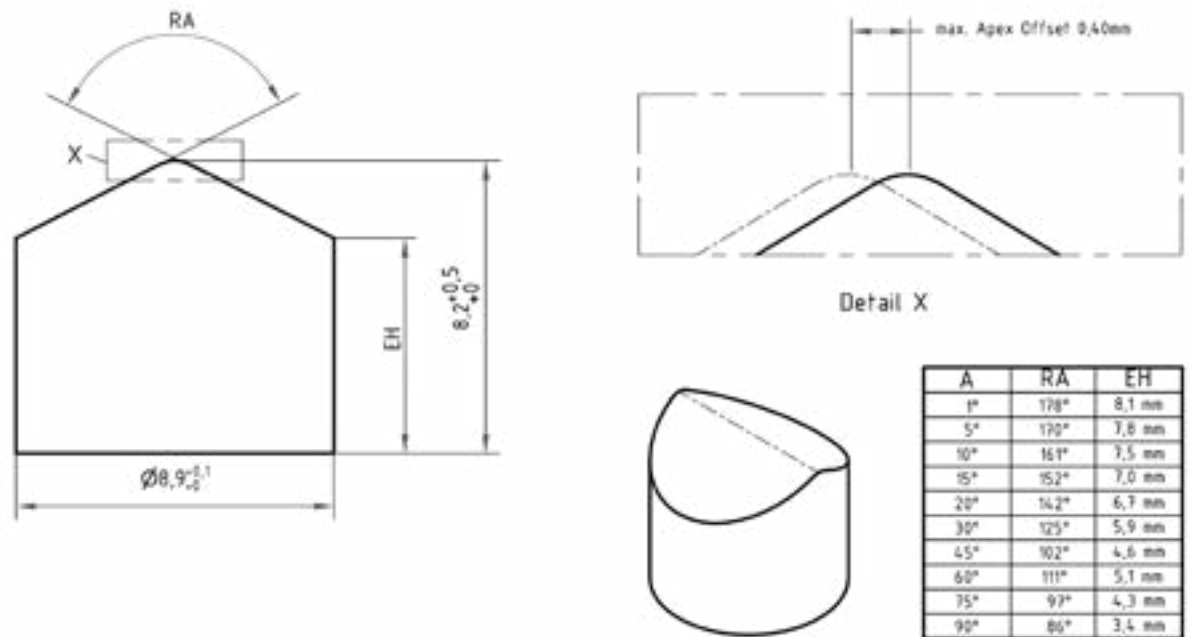
Dimensions	Diameter: D6: 5.9 - 6.0 mm D9: 8.9 - 9.0 mm Height: D6: 5.5 - 5.9 mm D9: 8.2 - 8.7 mm
Operating/storage temperature	-20°C to +120°C
Beam profile	active area: 4.0 mm x 4.0 mm
Fan angle (@660 nm)	BK7 or equivalent: 1° (+1°) / 5° (+3°) / 10° (+3°) / 15° (+3°) / 20° (+3°) / 30° (+3°) / 45° (+3°) SF6 or equivalent (AR coating on plane surface): 60° (+5°) / 75° (+5°) / 90° (+5°)
Line intensity variation	≤20% (80% of the laser line)
Line straightness	≤0.1%

Drawings

Powell Lens 6 mm Diameter



Powell Lens 9 mm Diameter



Ordering Code Powell Lens (replace X by value)

	Fan angle [deg]	Beam size (1/e ² dia- meter [mm] x10)	Lens diameter [mm]
PL —	AX	BX	DX
	↓	↓	↓
	1	05	6
	5	06	9
	10	07	
	15	08	
	20	09	
	30	10	
	45	12	
	60	14	
	75	16	
	90	18	
		20	
		24	
		28	
		30	

Example:

PL-A30B10D9: 30° fan angle, 1 mm beam, 9 mm diameter